

**CURRENT LISTING OF CLAIMS**

1. (Original) An isolated polypeptide, comprising
  - (a) an amino acid sequence having at least 50% amino acid identity with SEQ ID NO: 4, and
  - (b) an amino acid sequence of SEQ ID NO: 5 or 6; or a conservative variant thereof.
2. (Original) The isolated polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence having at least 80% amino acid identity with SEQ ID NO: 4.
3. (Original) The isolated polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence having at least 90% amino acid identity with SEQ ID NO: 4.
4. (Original) An isolated polypeptide, comprising SEQ ID NO: 2, or a conservative variant thereof.
5. (Original) The isolated polypeptide of claim 4, wherein said polypeptide comprises SEQ ID NO: 2.
6. (Original) The isolated polypeptide of claim 5, wherein said polypeptide consists of SEQ ID NO: 2.
7. (Original) A cell, comprising the exogenously expressed polypeptide of claim 1, 2 or 4.
8. (Original) A method for identifying a compound that modulates a DP receptor variant, comprising:
  - (a) contacting said DP receptor variant with a compound, wherein said DP receptor variant is an isolated DP receptor variant or a DP receptor variant over-expressed in a genetically engineered cell, and
  - (b) determining the level of an indicator which correlates with modulation of the DP receptor variant,

(c) wherein an alteration in the level of said indicator as compared to a control level indicates that said compound is a compound that modulates the DP receptor variant, wherein said DP receptor variant is the polypeptide of claim 1.

9. (Original) The method of claim 8, wherein said alteration is an increase in the level of said indicator.

10. (Original) The method of claim 8, wherein said alteration is a decrease in the level of said indicator.

11. (Original) The method of claim 8, wherein said DP receptor variant is a polypeptide comprising an amino acid sequence having at least 80% amino acid identity with SEQ ID NO: 4.

12. (Original) The method of claim 8, wherein said DP receptor variant is a polypeptide comprising the amino acid sequence of SEQ ID NO: 2, or a conservative variant thereof.

13. (Original) The method of claim 8, wherein said DP receptor variant is an isolated polypeptide.

14. (Original) The method of claim 8, wherein said DP receptor variant is a DP receptor variant over-expressed in a genetically engineered cell.

15. (Original) The method of claim 14, wherein said DP receptor variant is exogenously expressed.

16. (Original) The method of claim 8, wherein said indicator is calcium.

17. (Original) The method of claim 8, wherein said compound is a polypeptide.

18. (Original) The method of claim 8, wherein said compound is a small molecule.

19. (Original) A method for identifying a compound that specifically binds to a DP receptor variant, comprising:

- (a) contacting said DP receptor variant with a compound, wherein said DP receptor variant is an isolated DP receptor variant or a DP receptor variant over-expressed in a genetically engineered cell, and
- (b) determining specific binding of said compound to said DP receptor variant, wherein said DP receptor variant is the polypeptide of claim 1.

20. (Original) The method of claim 19, wherein said DP receptor variant is a polypeptide comprising an amino acid sequence having at least 80% amino acid identity with SEQ ID NO: 4.

21. (Original) The method of claim 19, wherein said DP receptor variant is a polypeptide having the amino acid sequence of SEQ ID NO: 2 or a conservative variant thereof.

22. (Original) The method of claim 19, wherein said DP receptor variant is an isolated polypeptide.

23. (Original) The method of claim 19, wherein said DP receptor is a DP receptor variant over-expressed in a genetically engineered cell.

24. (Original) The method of claim 23, wherein said DP receptor variant is exogenously expressed.

25. (Original) The method of claim 19, wherein said contacting occurs *in vitro*.

26. (Original) The method of claim 19, wherein said compound is a polypeptide.

27. (Original) The method of claim 19, wherein said compound is a small molecule.

28. (Original) A method for identifying a compound that differentially modulates a DP receptor variant, comprising:

- (a) contacting said DP receptor variant with a compound, wherein said DP receptor variant is an isolated DP receptor variant or a DP receptor variant over-expressed in a genetically engineered cell;

- (b) determining the level of an indicator which correlates with modulation of said DP receptor variant;
  - (c) contacting a second receptor with said compound;
  - (d) determining the level of a corresponding indicator which correlates with modulation of said second receptor; and
  - (e) comparing the level of the indicator from step (b) with the level of the corresponding indicator from step (d), wherein a different level of the indicator from step (b) compared to the level of the corresponding indicator from step (d) indicates that said compound is a compound that differentially modulates said DP receptor variant,
- wherein said DP receptor variant is the polypeptide of claim 1.

29. (Original) The method of claim 28, wherein said second receptor comprises the amino acid sequence of SEQ ID NO: 4 or a functional fragment thereof.

30. (Original) The method of claim 29, wherein said second receptor comprises the amino acid sequence of SEQ ID NO: 4.

31. (Original) The method of claim 28, wherein the level of said indicator from step (b) is greater than the level of said corresponding indicator from step (d).

32. (Original) The method of claim 28, wherein the level of said indicator from step (b) is less than the level of said corresponding indicator from step (d).

33. (Original) The method of claim 28, wherein said DP receptor variant is a polypeptide comprising an amino acid sequence having at least 80% amino acid identity with SEQ ID NO: 4.

34. (Original) The method of claim 28, wherein said DP receptor variant is a polypeptide comprising the amino acid sequence SEQ ID NO: 2 or a conservative variant thereof.

35. (Original) The method of claim 28, wherein said DP receptor variant is an isolated polypeptide.

36. (Original) The method of claim 28, wherein said DP receptor variant is a DP receptor variant over-expressed in a genetically engineered cell.

37. (Original) The method of claim 36, wherein said DP receptor variant is exogenously expressed.
38. (Original) The method of claim 28, wherein said indicator in step (b) is calcium.
39. (Original) The method of claim 28, wherein said compound is a polypeptide.
40. (Original) The method of claim 28, wherein said compound is a small molecule.
41. (Original) A method for identifying a compound that differentially binds to a DP receptor variant, comprising:
- (a) contacting said DP receptor variant with a compound, wherein said DP receptor variant is an isolated DP receptor variant or a DP receptor variant over-expressed in a genetically engineered cell;
  - (b) determining specific binding of said compound to said DP receptor variant;
  - (c) contacting a second receptor with said compound;
  - (d) determining specific binding of said compound to said second receptor; and
  - (e) comparing the level of specific binding from step (b) with the level of specific binding from step (d), wherein a different level of specific binding from step (b) compared to the level of specific binding from step (d) indicates that said compound is a compound that differentially binds to a DP receptor variant,
- wherein said DP receptor variant is the polypeptide of claim 1.
42. (Original) The method of claim 41, wherein said second receptor comprises the amino acid sequence of SEQ ID NO: 4, or a functional fragment thereof.
43. (Original) The method of claim 41, wherein said second receptor comprises the amino acid sequence of SEQ ID NO: 4.
44. (Original) The method of claim 41, wherein said different level of specific binding is an increased level of binding.

45. (Original) The method of claim 41, wherein said different level of specific binding is a decreased level of binding.

46. (Original) The method of claim 41, wherein said DP receptor variant receptor is a polypeptide comprising an amino acid sequence having at least 80% amino acid identity with SEQ ID NO: 4

47. (Original) The method of claim 41, wherein said DP receptor variant is a polypeptide comprising the amino acid sequence of SEQ ID NO: 2 or a conservative variant thereof.

48. (Original) The method of claim 41, wherein said DP receptor variant is an isolated polypeptide.

49. (Original) The method of claim 41, wherein said DP receptor variant is a DP receptor variant over-expressed in a genetically engineered cell.

50. (Original) The method of claim 49, wherein said DP receptor variant is exogenously expressed.

51. (Original) The method of claim 41, wherein said contacting occurs *in vitro*.

52. (Original) The method of claim 41, wherein said compound is a polypeptide.

53. (Original) The method of claim 41, wherein said compound is a small molecule.